Water Education Workshop for Water Board Members

Stormwater Issues

Geoff Brosseau, California Stormwater Quality Association (CASQA)

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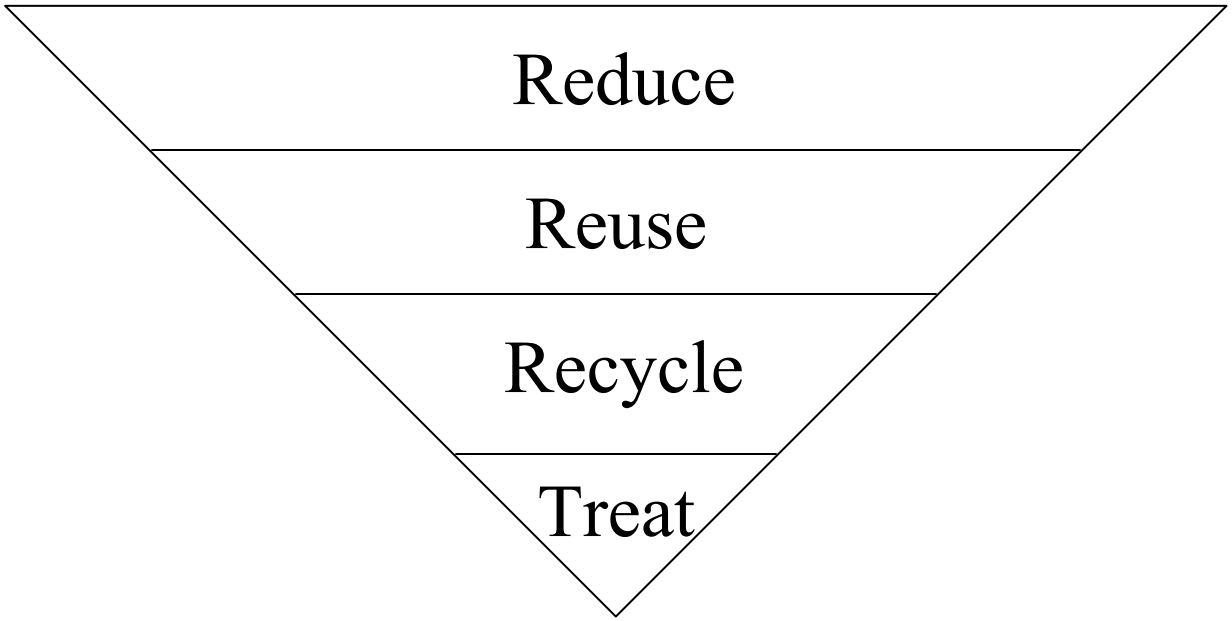
San Diego

California Stormwater Quality Association

- Founded in 1989 as the Stormwater Quality Task Force – official technical advisory body to State Water Board
- Nonprofit public benefit 501(c)(3) corporation in 2003
- Professional member association dedicated to the advancement of stormwater quality management through:
  - collaboration,
  - education,
  - regulatory review,
  - implementation guidance,
  - and scientific assessment.
- Specific purpose is to assist those entities charged with stormwater quality management responsibilities with the development and implementation of stormwater quality goals and programs
- Practitioners of stormwater quality management
- Technical focus

LID / Green Infrastructure – Role in permits

True Source Control (↓Runoff) Stormwater Quality Management Hierarchy



Regulatory Objectives for LID

Pollutants | **Hydrology** | **Habitat**

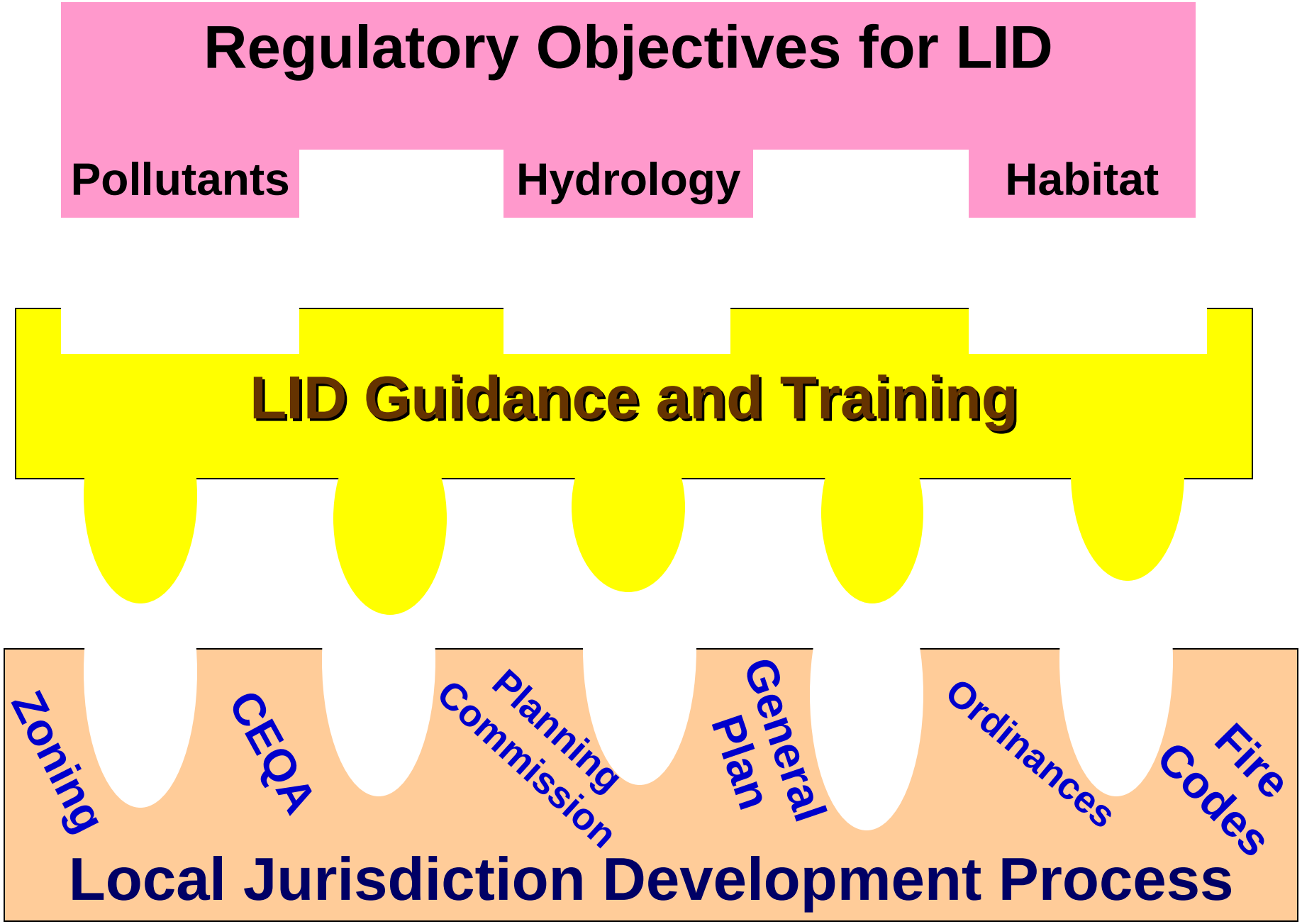
From Regulations

Need a Square-to-Rounded Translator

To Implementation

Zoning
CEQA
Planning Commission
General Plan
Ordinances
Fire Codes

Local Jurisdiction Development Process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Quantifiable measures / Numeric effluent limitations – Role in permits

Municipal Action Levels – Purpose and Derivation

Expert Blue-Ribbon Panel Findings

"It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges……

For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible.

Expert Blue-Ribbon Panel Findings (cont')

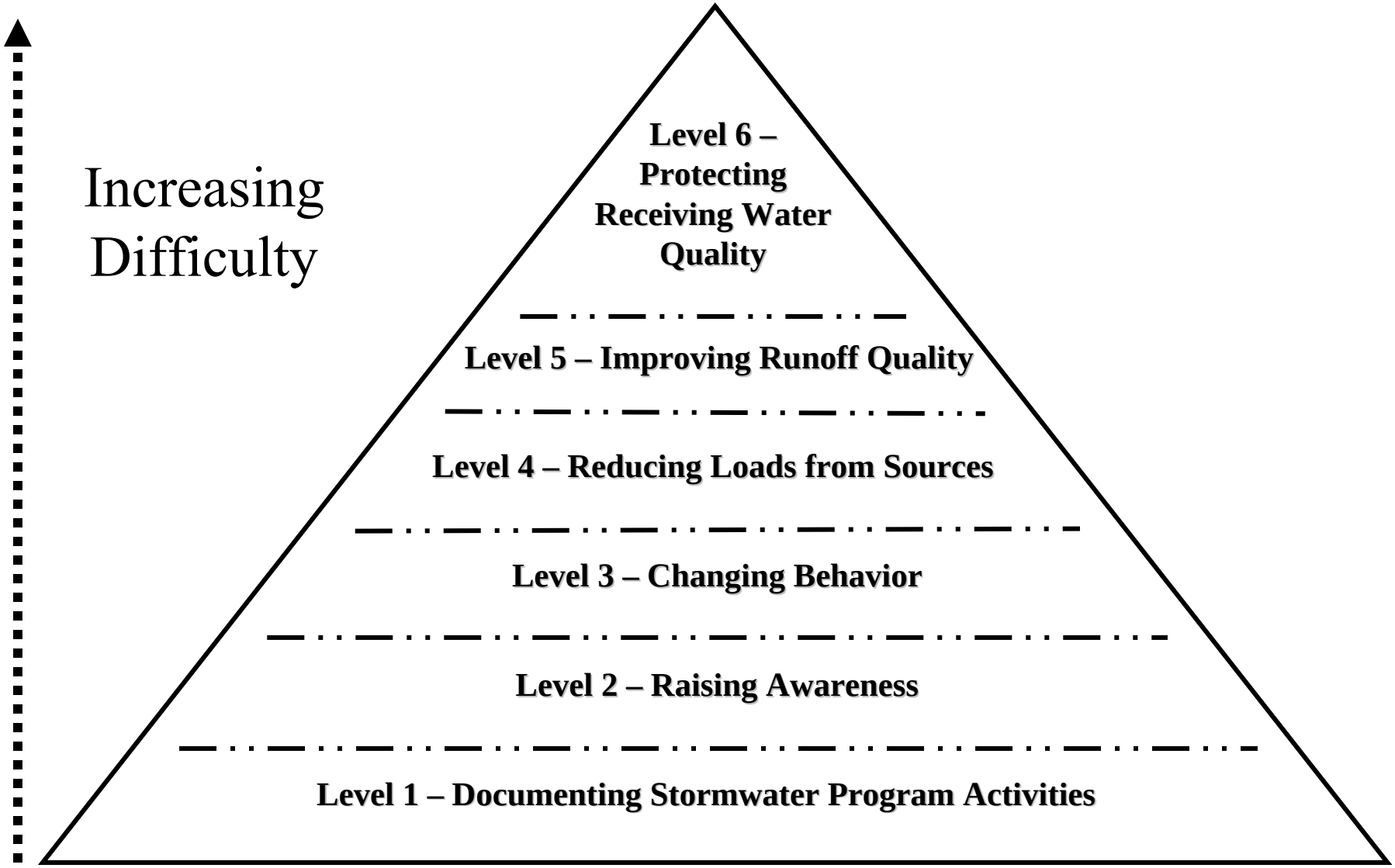
- Action Level as defined by Panel
  - Used to identify the "bad actor catchments"
  - Functionally same as an "upset value"

Quantifiable Approach for assessing Permit Compliance and Program Effectiveness

Challenges to measuring stormwater program effectiveness (Cause —?→ Effect) (Action —?→ Outcome)

- Degrees of separation phenomenon
- Complicating effects of integrating all inputs
- Outcome Level is defined by:
  - Type of best management practice being measured
  - Power of BMP

Assessment Outcome Levels



CASQA Quantifiable Approach

- Incorporates:
  - Water Board's expert Blue-Ribbon Panel's Action Level concept
  - CASQA's Effectiveness Assessment method
  - standard regulatory options for NPDES permitting and TMDL implementation
- Introduces two significant enhancements to compliance determination:
  - triggers
  - measures of achievement

Attributes of Assessment Method

- Assess
  - Effort (Outcome Level 1)
  - Achievement (Outcome Levels 2 - 6)
- Type
  - Narrative or qualitative
  - Numeric or quantifiable
- Progress
  - Effort → Achievement
  - Qualitative → Numeric or quantifiable

Atmospheric Deposition – Progress and Plans

When we try to pick out anything by itself, we find it hitched to everything else in the universe – John Muir

Selected work by stormwater agencies

- Research
  - Copper in brake pads (wear debris characterization / generation and whole environment modeling)
  - Mercury in fuels (sample and analyze fuels)

California Air Resources Board Mobile Laboratory

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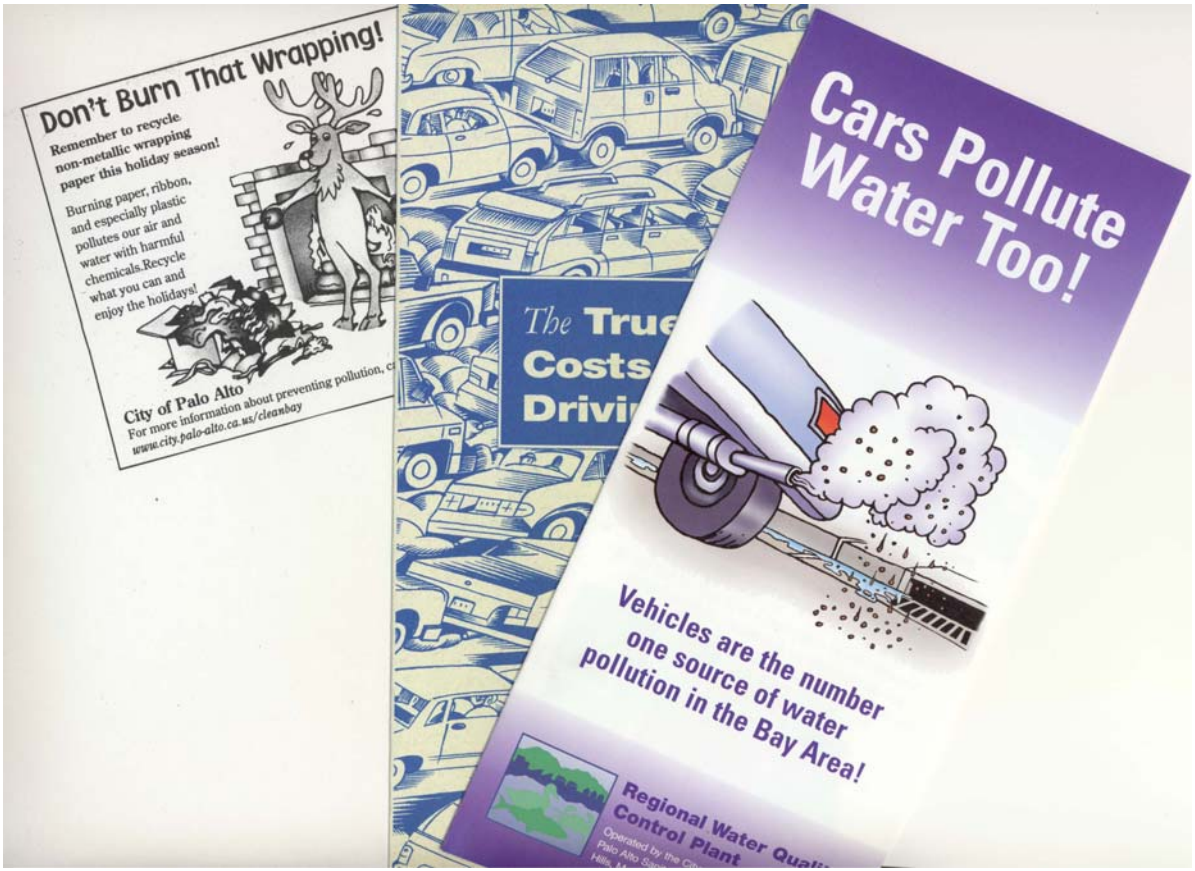
  - Copper in brake pads (wear debris characterization / generation and whole environment modeling)
  - Mercury in fuels (sample and analyze fuels)
- Education
  - General Public
    - Advertising campaigns (Air pollution=water pollution)
    - Media pitches and public outreach (*Cars pollute water too—Spare the Air-Protect the Bay*, Wood burning, Wrapping paper)

AQ=WQ Public Education Items



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  - Institutional
    - Informal staff-level meetings (AQ and WQ agencies)
    - Conference presentations (e.g., NPS 2008)
    - CASQA Workshops (2001 and 2005)

How the Gaps Affect Stormwater Quality Management – Regulatory

- NPDES stormwater permit provisions
  - Copper
  - PAHs
- TMDLs – Air deposition significant “source” to stormwater load
  - San Francisco Bay Mercury (~1/3 of load; ~2/3 of WLA) (1/2 load reduction required)
  - Los Angeles River and Ballona Creek Metals (Copper, Lead, and Zinc)

Recommendations for Addressing the Gaps

- Rally around True Source Control – shared interest / benefit
  - Water quality agencies – Significant concerns with original pollution sources
    - Vehicles (Copper, PAHs)
    - Coal-fired plants, crematoria (Mercury)
  - Air quality agencies – Significant authority and experience with product control
    - Lead in fuel
  - USEPA – Growing involvement and influence with international sources

- Involve ARB/AQMDs in TMDLs for which air is a significant pathway

Recommendations for Addressing the Gaps (cont')

- Develop "common ground" fact sheets for most common TMDL pollutants
- Revise the State Water Board's TMDL Policy to explicitly recognize and account for atmospheric deposition as a source category
- Develop and adopt State legislation that would make it a funded responsibility of water quality and air quality regulatory agencies to work together on common pollutants and their sources

Close the gaps vs. bridge the gaps or
hitch anything by itself to everything else

Basin Plans - Needs

Do Them

Statewide Stormwater Policy

- Stormwater is a nonpoint source issue being addressed with a point source regulatory model

- Much of the current stormwater policy is being developed in an implicit fashion on a permit-by-permit, region-by-region basis instead of in an explicit way at the statewide level

Statewide Stormwater Policy (cont')

- Lack of a State Policy is leading to inconsistent approaches to permit compliance and program assessments

- Lack of a State Policy is leaving a policy vacuum leading to a lack of or inappropriate approaches in other water quality control programs (e.g., SIP, Ocean Plan / Areas of Special Biological Significance (ASBS), Compliance Schedules)

True Source Control (↓Potential Pollutants) Product-based Pollutants: Conceptual Relationships